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**(54) SOLID HIGH MOLECULAR ELECTROLYTE
TYPE FUEL CELL**

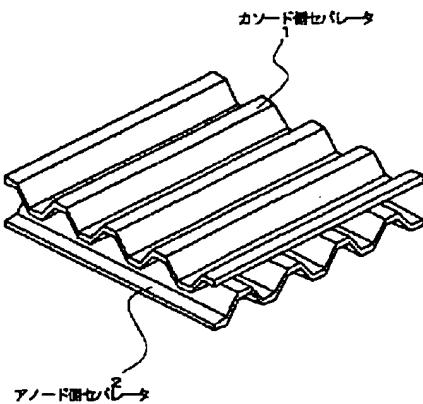
(57) Abstract:

PROBLEM TO BE SOLVED: To provide a solid high molecular electrolyte type fuel cell, which can be efficiently operated, by laminating plural unit cells, which are provided with a separator having a wave-shaped cross section in an outer surface of a film electrode junction body, and arranging coolant flow passages of each adjacent separator so as to cross each other.

SOLUTION: An oxidant electrode and a fuel electrode are provided in both main surfaces of a solid high molecular electrolyte film so as to form a film electrode junction body, and a separator having a wave-shaped cross section, which is formed of recessed parts and projecting parts, is provided in an outer surface of the conjunction so as to obtain a unit cell. Plural unit cells are laminated so as to structure a fuel cell layered product. Coolant is flowed for cooling between adjacent separators, and while the oxidant gas and the fuel gas are supplied to the oxidant electrode and the fuel electrode so as to generate the power. At this

stage, the recessed parts of the separator, which face to the electrode, work as gas flow passages, and the recessed parts of the opposite side work as coolant flow passages, and the coolant flow passages of the adjacent separators 1, 2 are arranged so as to cross each other, and the coolant is distributed for flowing, restraining the pressure loss at a low degree, and the cooling efficiency is thereby improved.

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